



Joint Service Safety Council

U.S. Navy Update

RADM Artie Johnson
Commander, Naval Safety Center
6 Nov 2007



USN Fatalities & Resources Lost

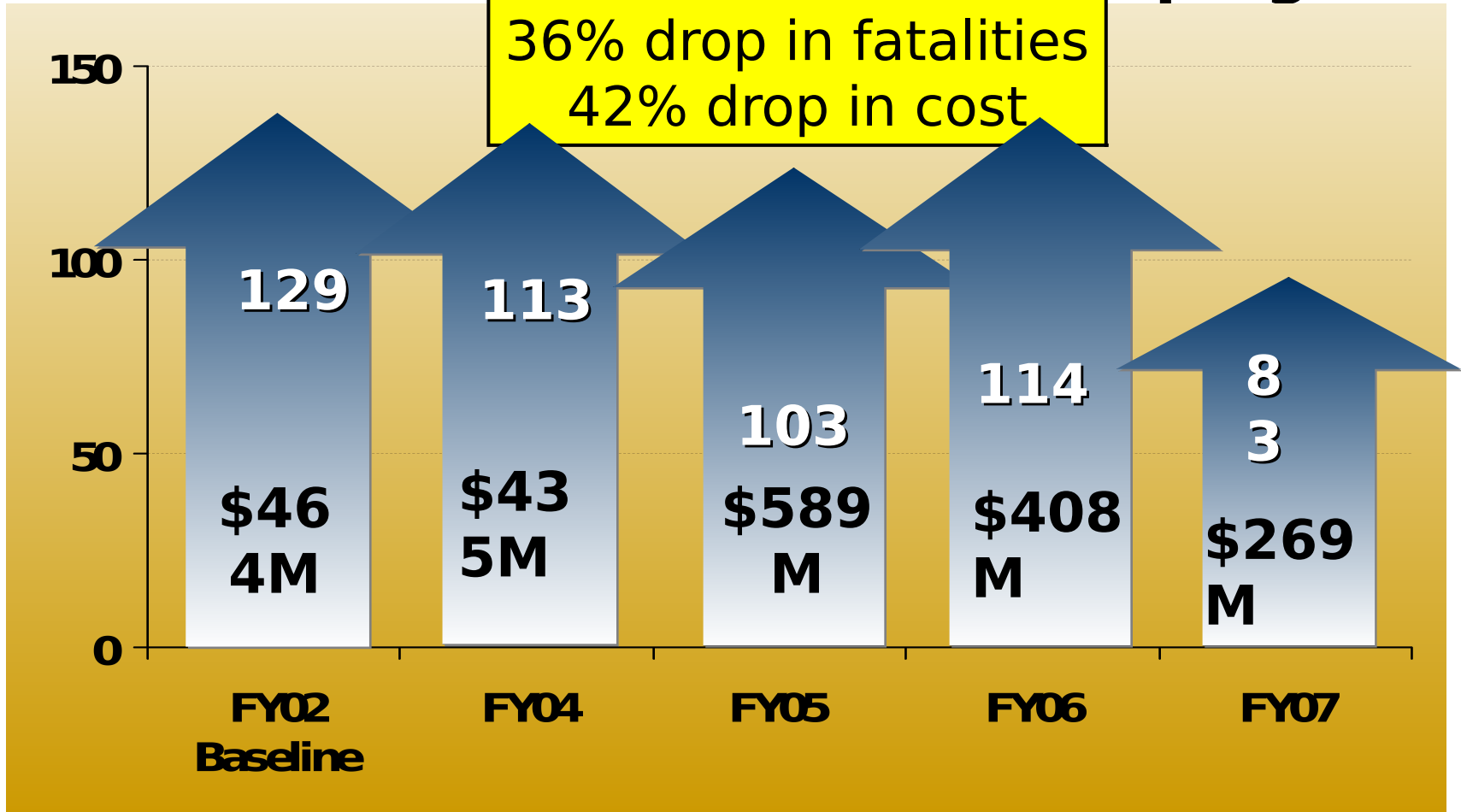
During

Mish

From FY02 to FY07:
36% drop in fatalities
42% drop in cost

ampaign

NUMBER OF FATALITIES

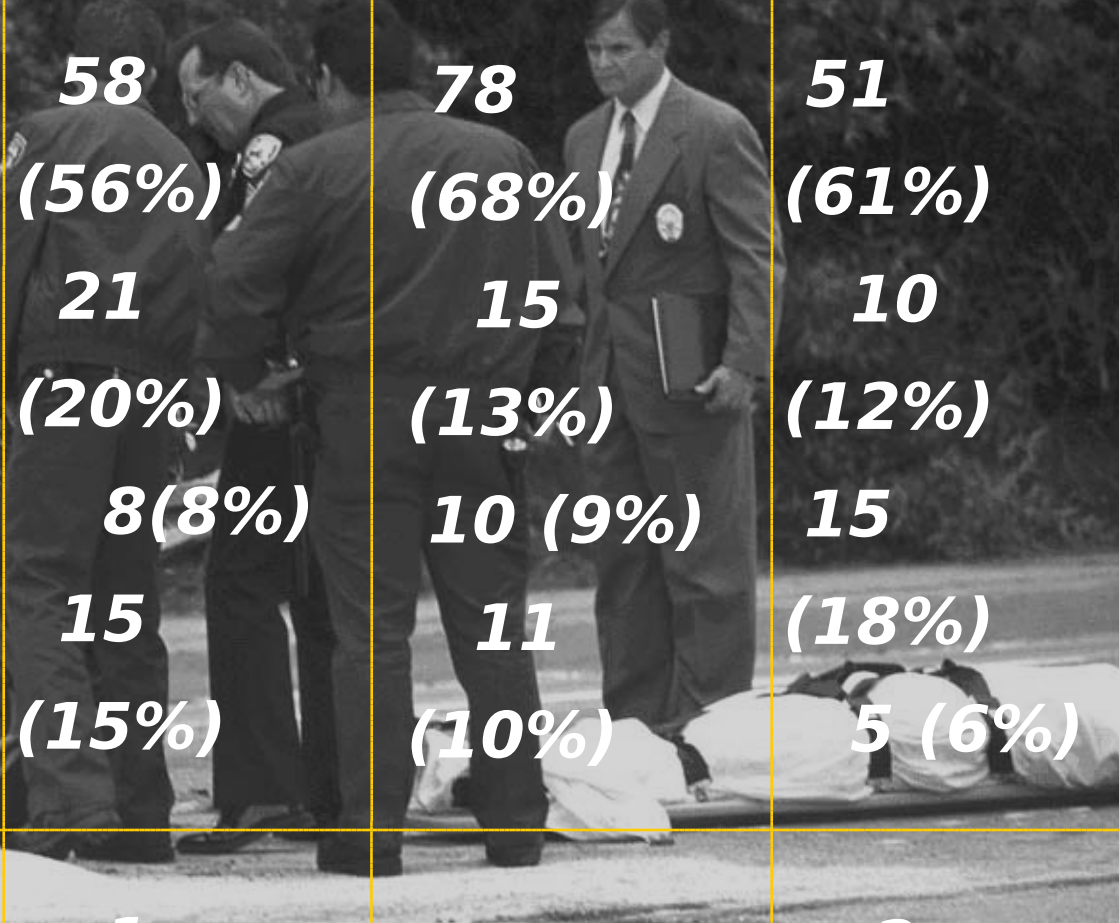
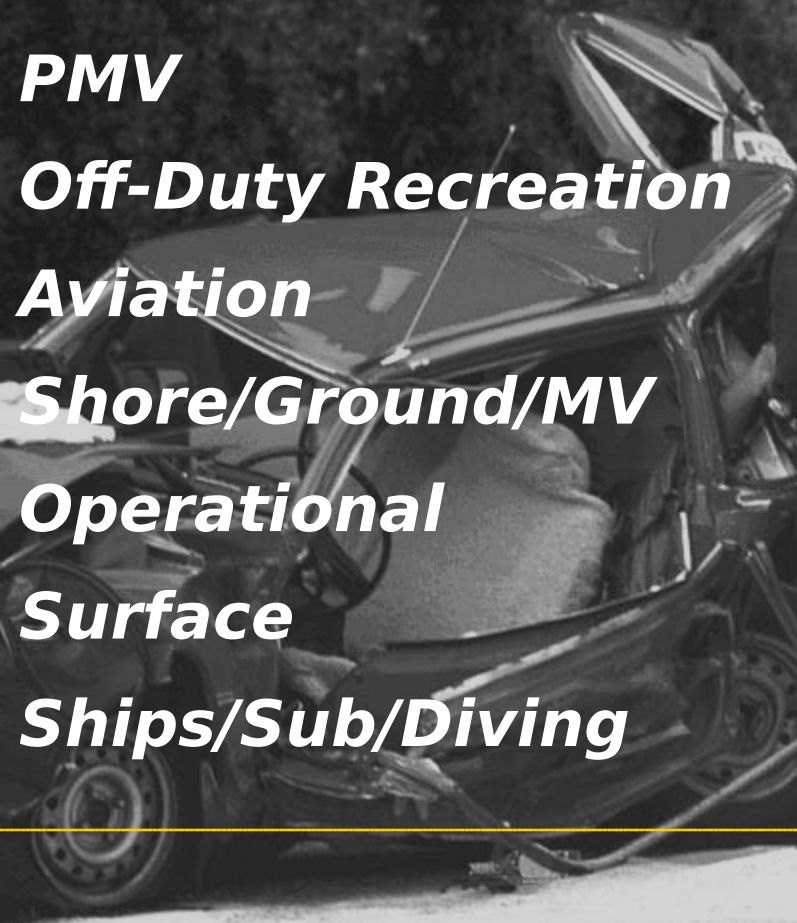


ENDSTATE GOAL IS ZERO!



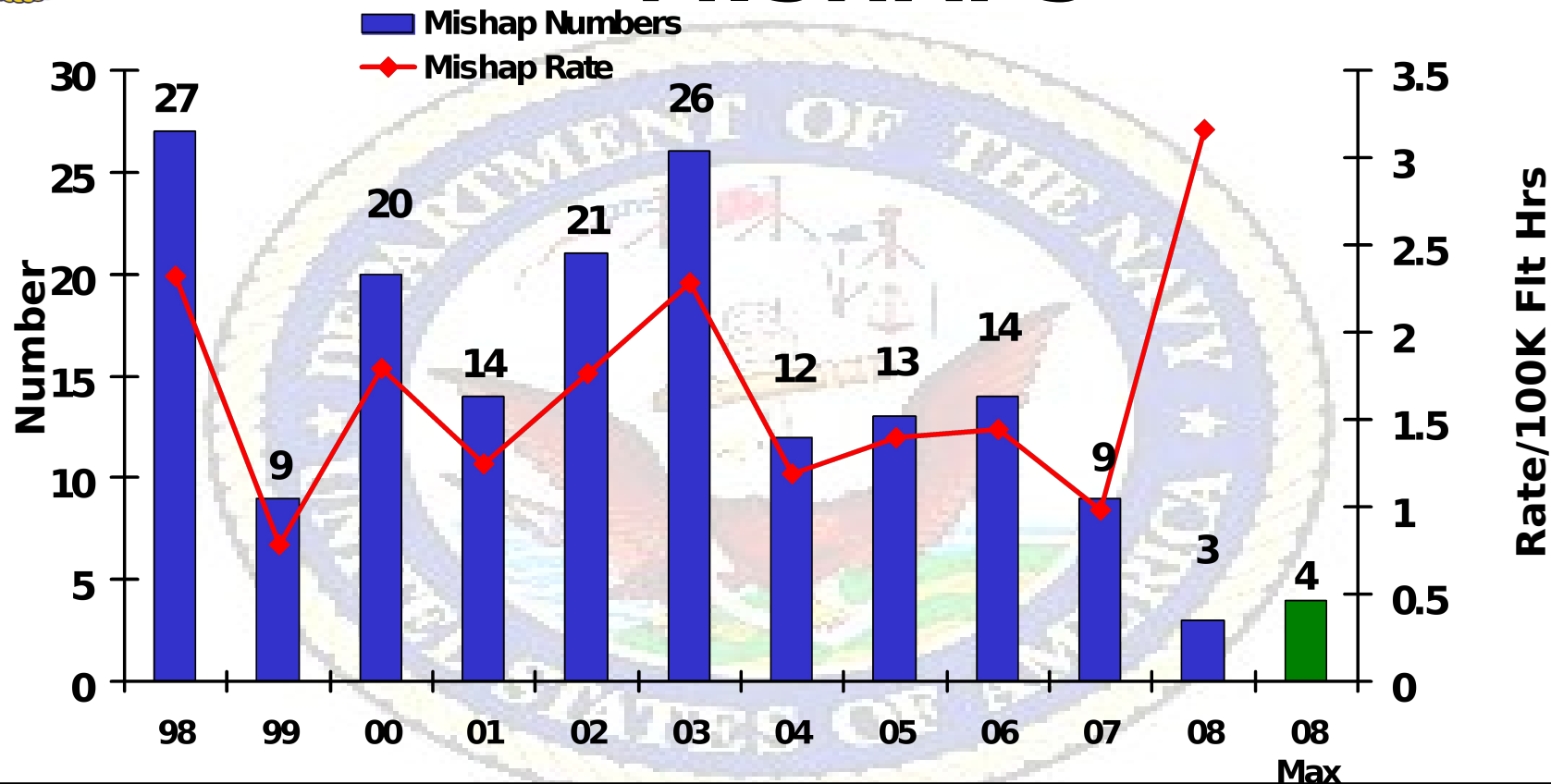
How Did Our Sailors Die?

	103 <i>Died in FY05</i>	114 <i>Died in FY06</i>	83 <i>Died in FY07</i>
PMV	58	78	51
Off-Duty Recreation	(56%)	(68%)	(61%)
Aviation	21	15	10
Shore/Ground/MV	(20%)	(13%)	(12%)
Operational	8(8%)	10 (9%)	15
Surface	15	11	(18%)
Ships/Sub/Diving	(15%)	(10%)	5 (6%)





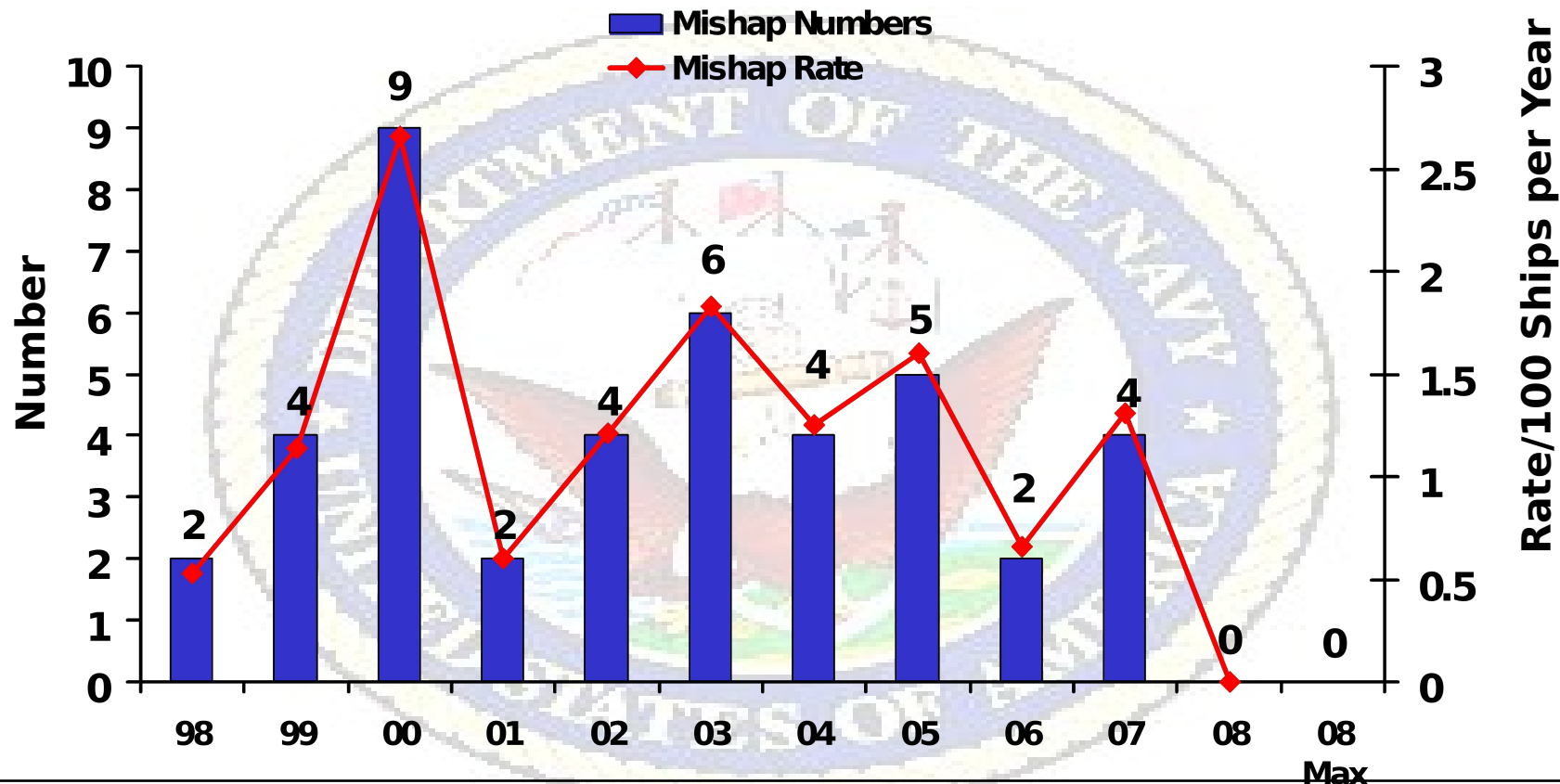
NAVY CLASS A FLIGHT MISHAPS



	<u>02 Nov 07</u>	<u>02</u>
<u>Nov 06</u>		
CLASS A MISHAPS/MISHAP RATE FY COMPARISON:	3 / 3.16	0/
	0.00	
FY07 MISHAPS/MISHAP RATE:	9 / 0.97	
10-YEAR AVERAGE (FY98-07) MISHAPS/MISHAP RATE:	16.5 / 1.54	



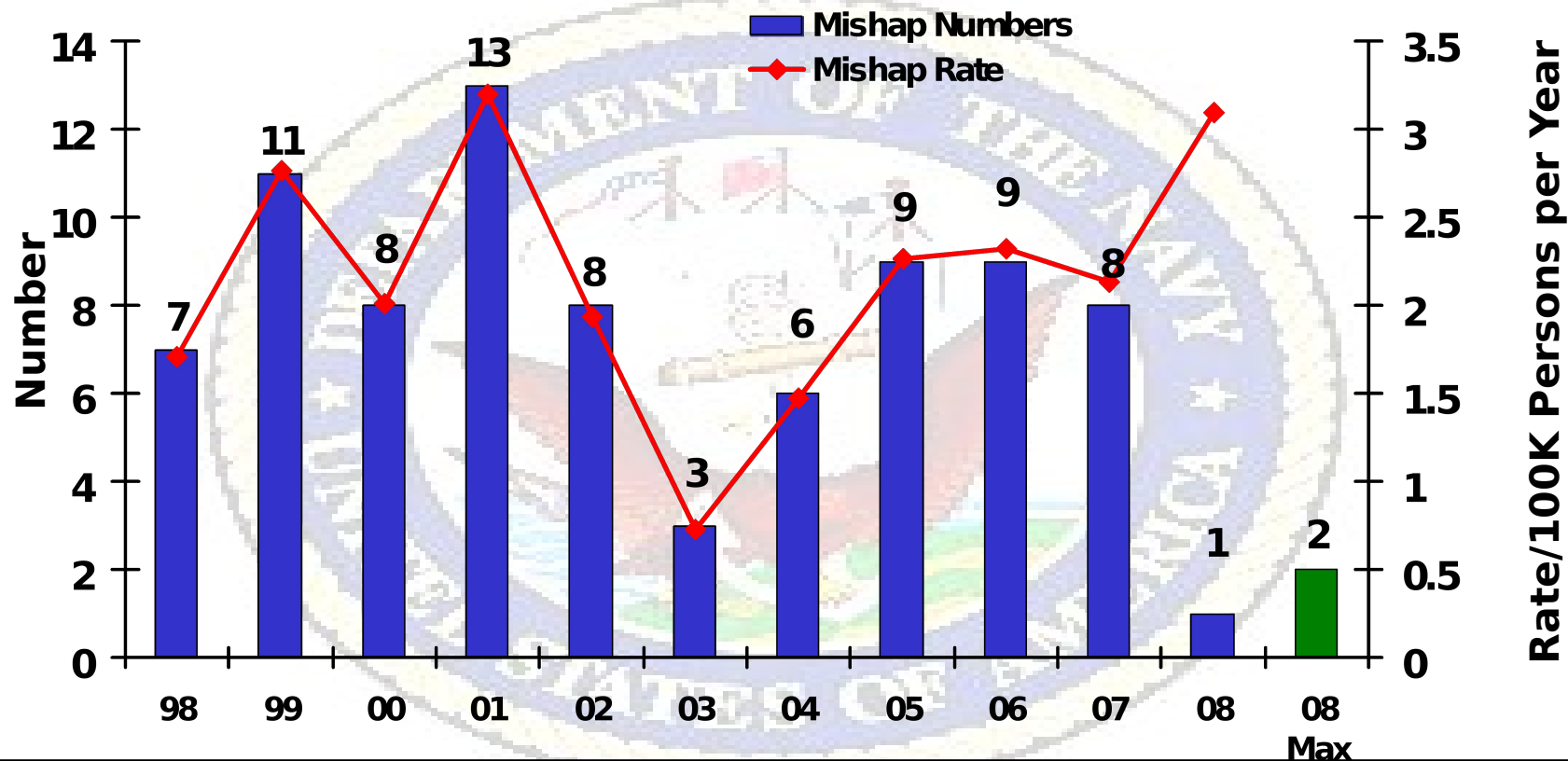
CLASS A AFLOAT MISHAPS



	<u>02 Nov 07</u>	<u>02</u>
<u>Nov 06</u>		
CLASS A MISHAPS/MISHAP RATE FY COMPARISON:	0 / 0.00	1 /
3.72		
FY07 MISHAPS/MISHAP RATE:	4 / 1.31	
10-YEAR AVERAGE (FY98-07) MISHAPS/MISHAP RATE:	4.2 / 1.27	



CLASS A SHORE OPER MISHAPS



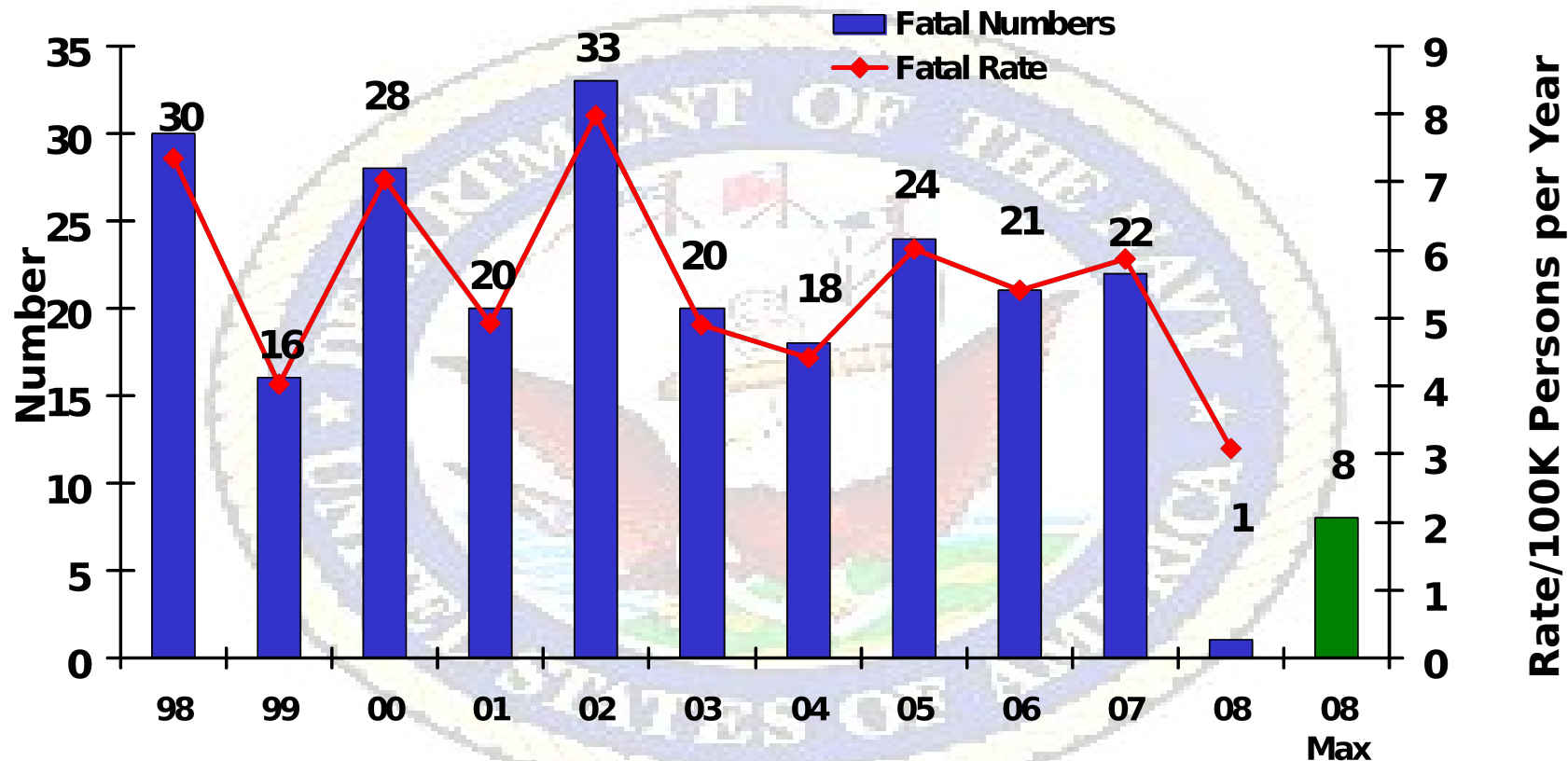
CLASS A MISHAPS/MISHAP RATE FY COMPARISON:

Nov 06	1 / 3.00
FY07 MISHAPS/MISHAP RATE:	8 / 2.13
10-YEAR AVERAGE (FY98-07) MISHAPS/MISHAP RATE:	8.2 / 2.05

02 Nov 07 **02**



OPERATIONAL FATALITIES



0.00

FATALITIES/FATALITY RATE: 22 / 5.87

10-YEAR AVERAGE (FY98-07) FATALITIES/FATALITY RATE: 23.2 / 5.80

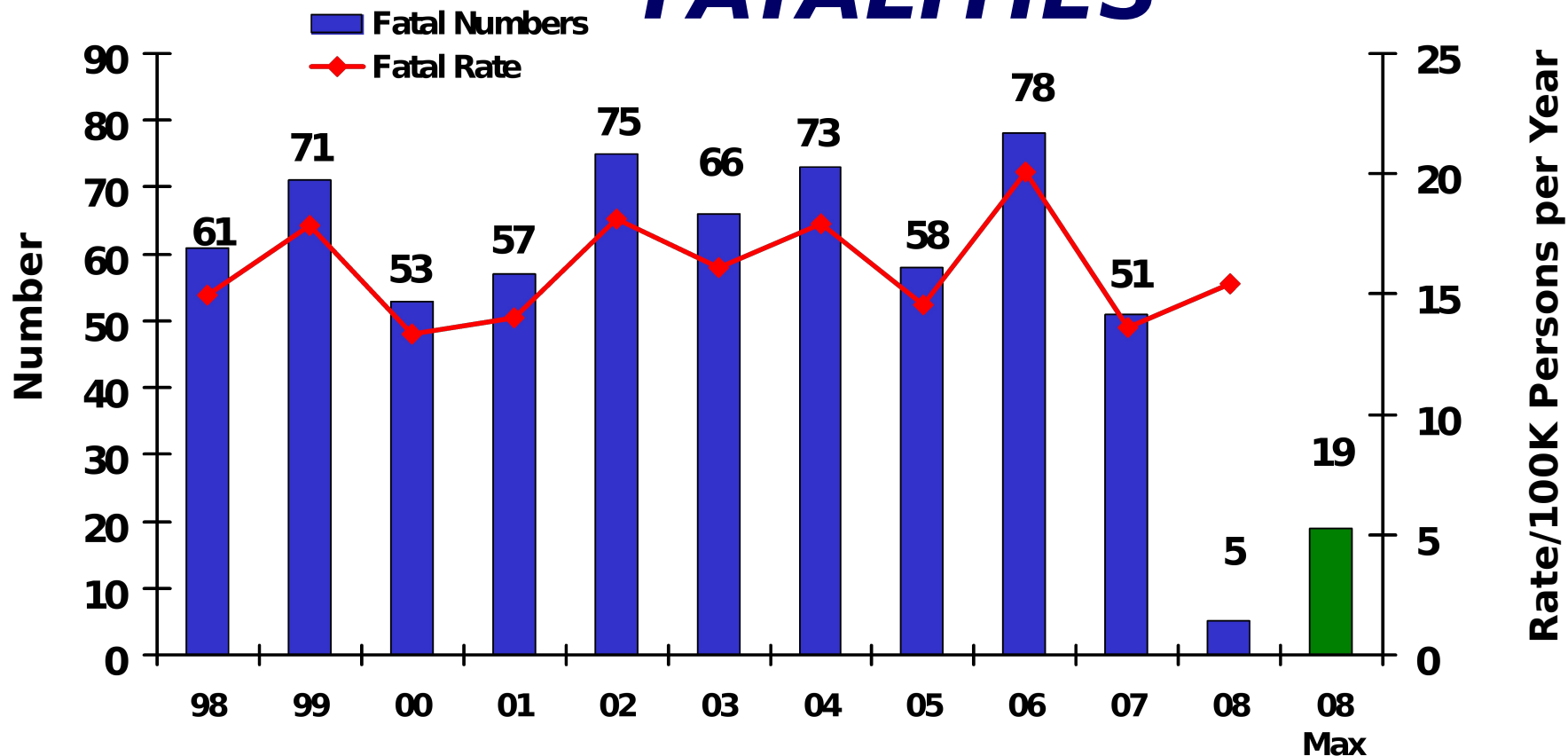
06
FATALITIES/FATALITY RATE FY COMPARISON:
FY07

02 Nov 07 02 Nov

1 / 3.09 0 /



PMV FATALITIES



2 PMV Fatality during this reporting period 27 Oct-02 Nov 07 02

Nov 06 Nov

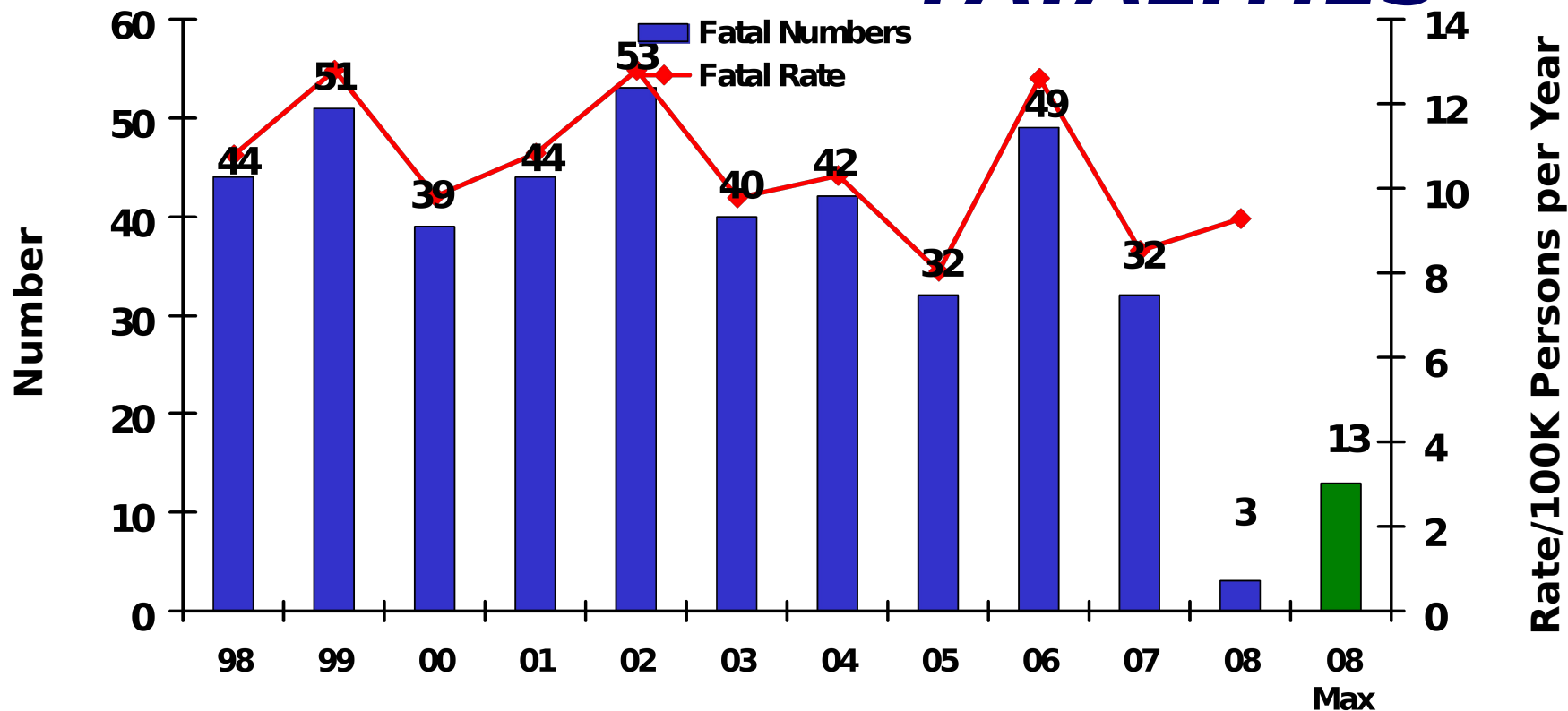
CLASS A FATALITIES/FATALITY RATE FY COMPARISON: 5 / 15.44 5 / 15.00

FY07 FATALITIES/FATALITY RATE: 51 / 13.60

10 YEAR AVERAGE (FY98-07) FATALITIES/FATALITY RATE: 64.3 / 16.06



4-WHEEL PMV FATALITIES



*pedestrian fatalities not included

1 Four-Wheel Fatality during this reporting period 02 Nov 07 02 Nov 06

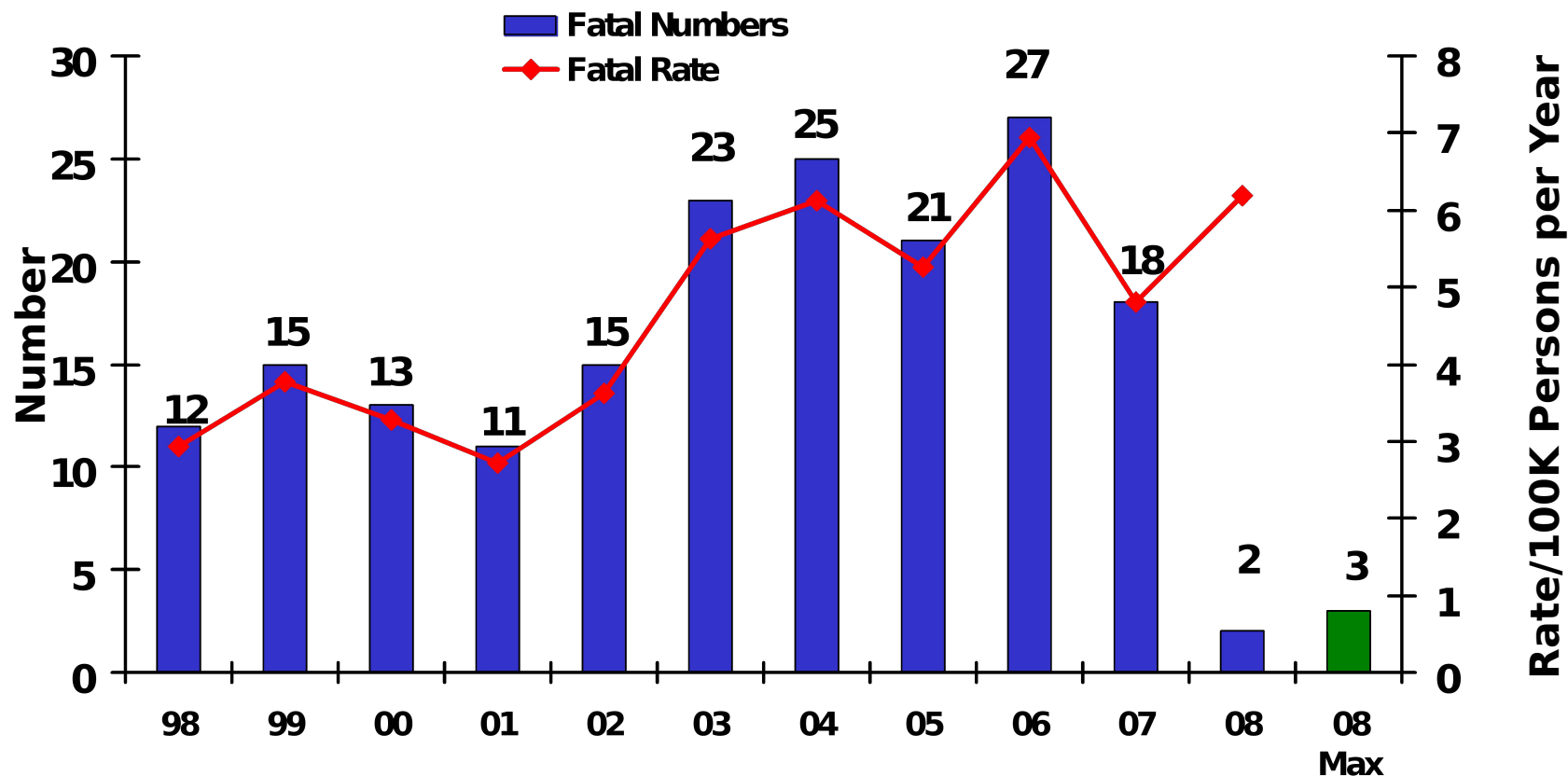
CLASS A FATALITIES/FATALITY RATE FY COMPARISON: 3 / 9.27 5 / 15.00

FY07 FATALITIES/FATALITY RATE: 32 / 8.53

10 YEAR AVERAGE (FY98-07) FATALITIES/FATALITY RATE: 42.6 / 10.64



MOTORCYCLE PMV FATALITIES

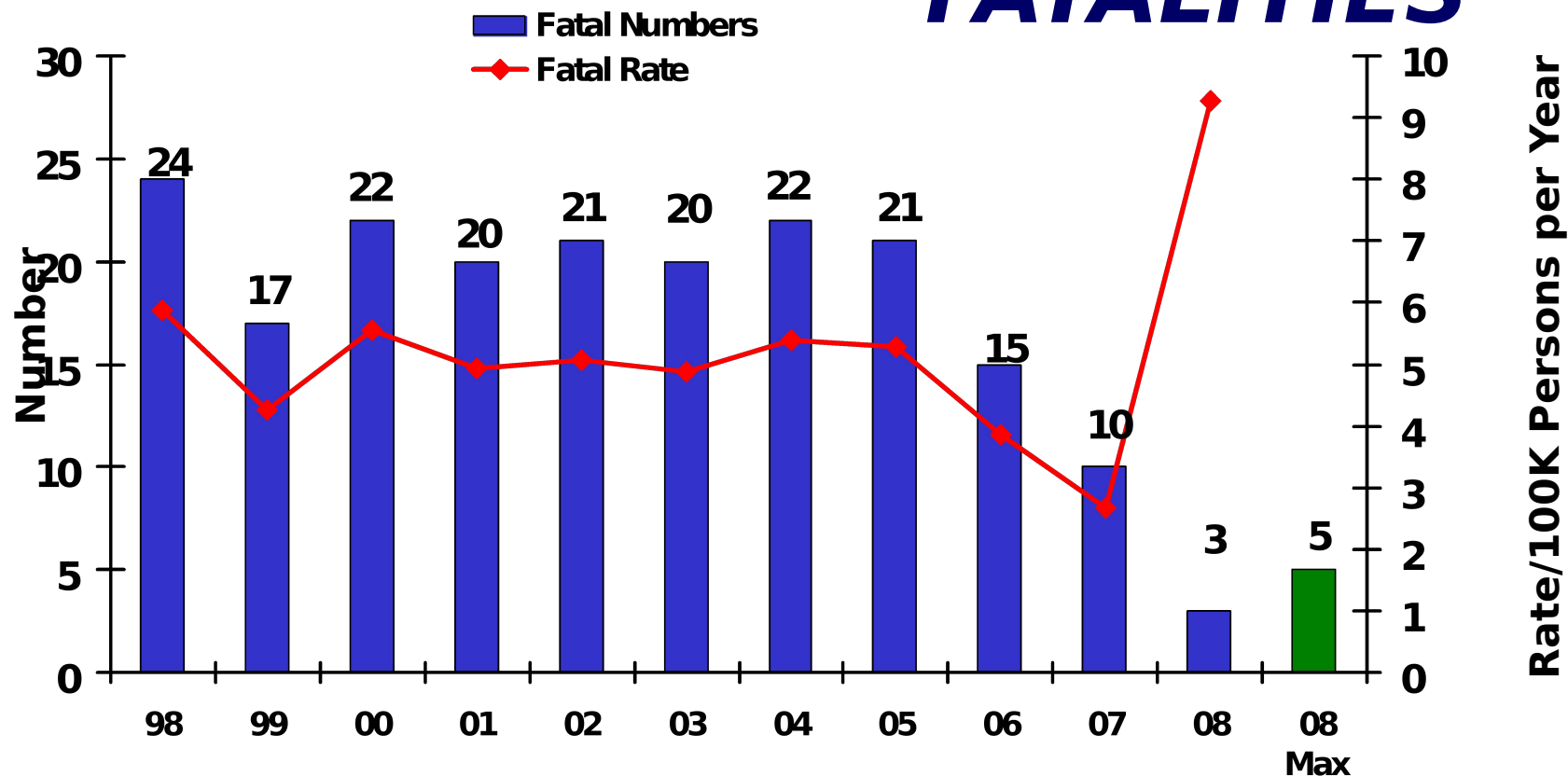


1 Motorcycle Fatalities during this reporting period
Nov 06 Oct - 02 Nov
CLASS A FATALITIES/FATALITY RATE FY COMPARISON:
FATALITIES/FATALITY RATE:
10 YEAR AVERAGE (FY08-07) FATALITIES/FATALITY RATE:

2 / 6.18	0 /
FY07	
18 / 4.80	
18.0 / 4.50	



OFF-DUTY/REC FATALITIES



0 Off-duty/Rec Fatalities during this reporting period 02 Nov 07

Nov 06 Oct - 02 Nov

CLASS A FATALITIES/FATALITY RATE FY COMPARISON: 3 / 9.27 0 / 0.00

RATE: 10 / 2.67

10 YEAR AVERAGE (FY98-07) FATALITIES/FATALITY RATE: 19.3 / 4.80



Initiatives

- Advanced Flight Deck Cranial (FDC)
- Brown Out
- ORMAS



Cost of Hearing Loss for Navy & Marine Corps (1996-2006)

\$ Millions

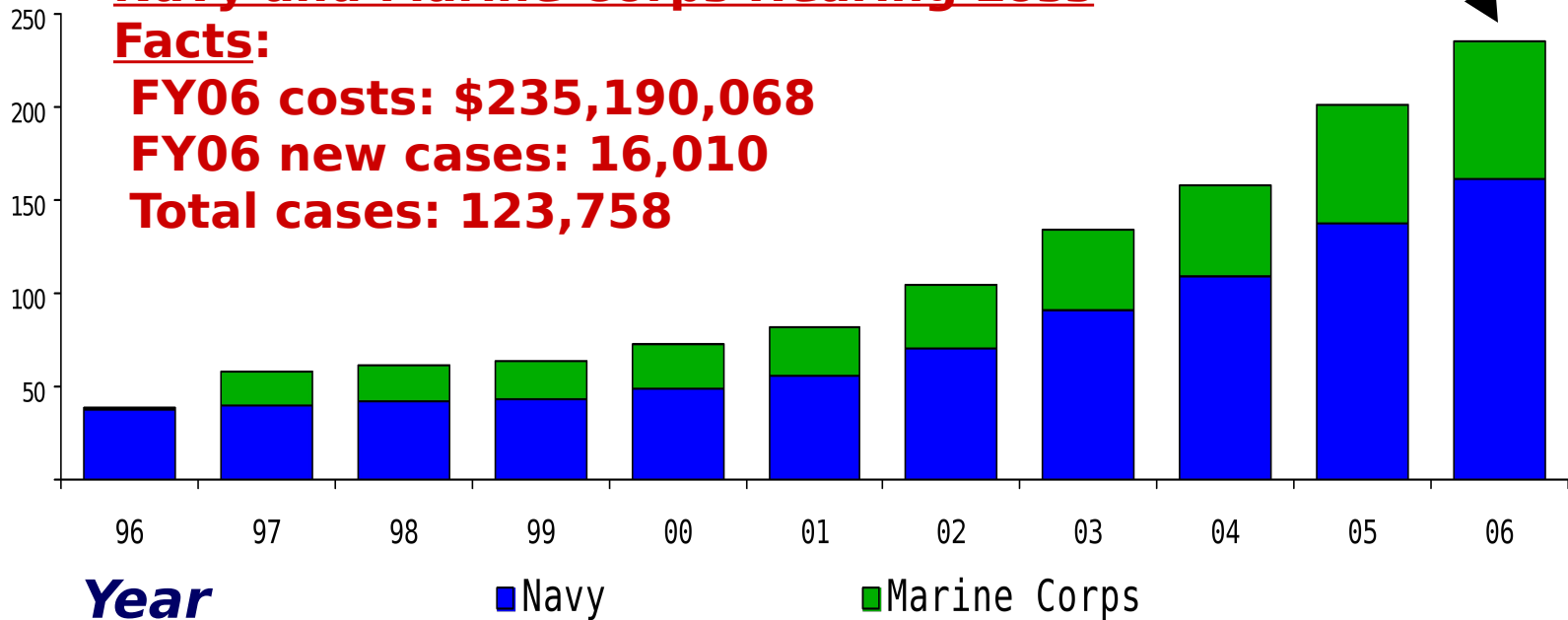
Navy and Marine Corps Hearing Loss

Facts:

FY06 costs: \$235,190,068

FY06 new cases: 16,010

Total cases: 123,758



2006

Navy

\$161,180,364

Marine Corps

\$74,059,704



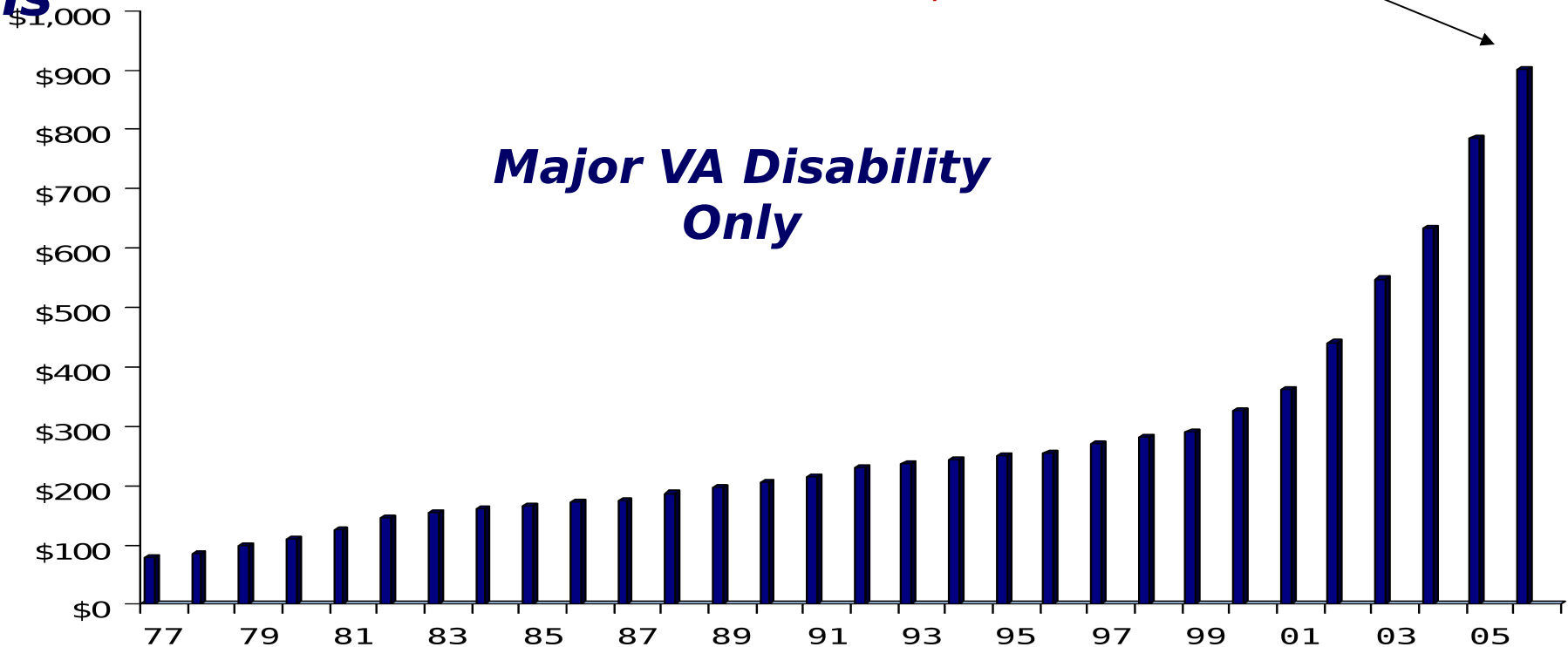
The Growing Noise Problem

Cost of Hearing Loss for All Veterans

(1977-
2006)

Total = \$8,385,892,465
BILLION
\$
901,472,784

**Millio
ns**



Years

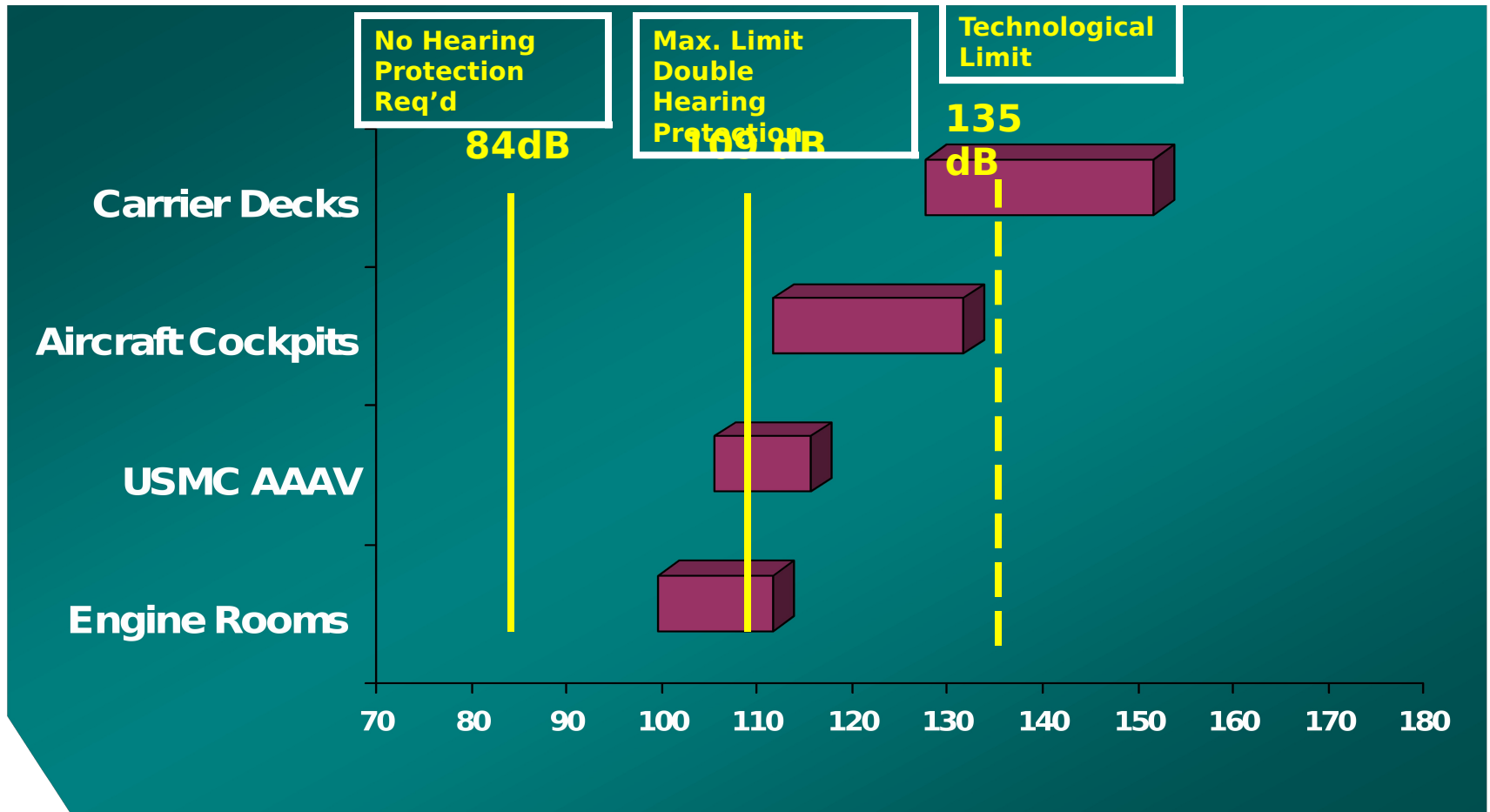
**Costs are approaching \$1Billion
annually**

* Data extrapolated from Dec 06 claims



THE GROWING NOISE PROBLEM

Noise Levels in Navy & Marine Corps



Noise Level (Decibel)



Advanced Flight Deck Cranial (FDC)

- **Background**

- Basic cranial design has been around since 1955.
 - Sound protection unchanged although jet engine technological advances increased personnel exposure to higher noise levels.
 - Multiple, unmanaged configurations.
 - basic/radios/NVGs/sound powered.
- Navy began efforts to develop and procure an upgraded cranial.
 - Procurement Risk Management Board (RMB) established.
 - NAVSAFECEN represented.
 - \$3Mil devoted to RDT&E effort.
 - Fleet input on cranial designs were received.



FDC Solution



FOUO



FOUO



FOUO

Custom ANR
Earplugs
w/ and w/o
Communications

Improved Ear
cup Cushion &
Foam and
Tethered
Custom Earplug
w/o
communication

Noise Canceling
Mic & Talk-Thru

Foam &
Custom Mini-
CEP
Communication
Earplugs



FOUO



FOUO

Tailor to mission and individual need

- Expanding foam or custom earplugs
- Passive or "passive + active" noise reduction
- With or without comm and talk-thru capability



FOUO



Potential for Joint Application

- This program is presently fielded to support Naval Aviation units, however, this program could be leveraged by other services.



BROWN OUT



DON BROWN OUT MISHAPS SINCE 9/11

Date	TMS	Class
12/6/2001	UH-1N (USMC)	A FM
12/16/2001	AH-1W (USMC)	C FM
1/5/2002	CH-46E (USMC)	C FM
3/30/2003	UH-1N (USMC)	A FM
4/8/2003	HH-60H (USN)	A FM
9/13/2004	CH-53E (USMC)	A FM
12/11/2006	CH-53E (USMC)	A FM
8/10/2007	HH-60H (USN)	A FM

- Threat: Unseen obstacles in LZ
 - Other aircraft maneuvering nearby
 - Ground/uneven terrain
 - Poles/wires
 - Etc.



Brown Out Blue Threat Analysis

- Lack of “see through instrumentation”
- Inadequate desert landing, brown out, wave off training
 - Proficiency in theater
- Poor crew resource management during approach/brown out conditions
- Violations of SOP when B/O encountered
- Failed to execute proper Instrument Take Off
- Poor evaluation of the LZ and prevailing wind conditions based on power available
- LZ lighting conditions



Current Mitigation

- Training
 - Desert Talon, Unit level
- Crew Resource Management
- Local SOPs
 - Wave off losing sight of ground
 - Transport/Attack
- LZ planning
 - Landing on hard surface/grass



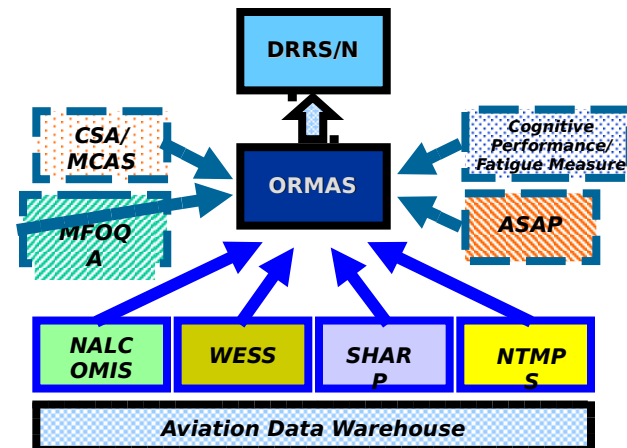
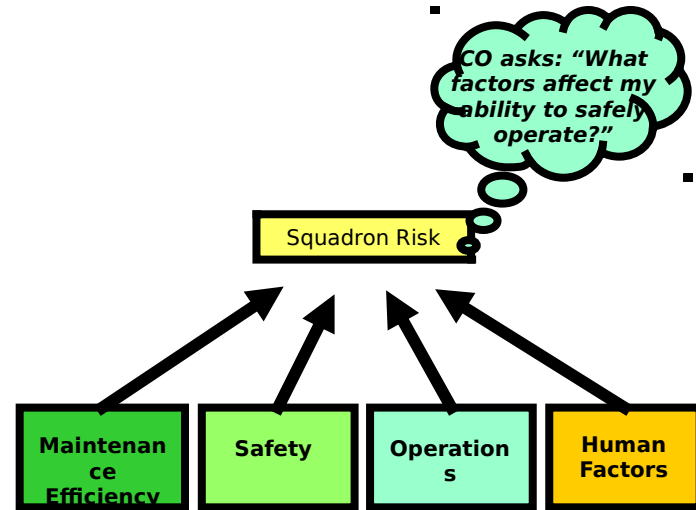
Future Technological Mitigation

- DARPA contract with Sikorsky to develop brown out solution.
 - USMC only
- 53K has a cockpit brown out solution as part of its ORD.
- Navy waiting to see progress on Army H60 program
 - Boeing developing solution for H60/H47
- Safety Technology WG (under ASITF) recommendation to DSOC
 - Technology solution to brown out problem.



What Is ORMAS?

- Forward looking risk assessment and decision enhancement tool providing leaders a view of unit current and future risk
- Capture performance data from existing sources
- Collate and analyze measures with an eye toward leading safety and risk management metrics
- Assign a risk score to an evolution
- Measurement of graduated risk levels affecting safe operations
- Display results to various levels of leadership to identify HAZARDS and control risk
- 1 Leg of the Triad – Unit, People, Machine





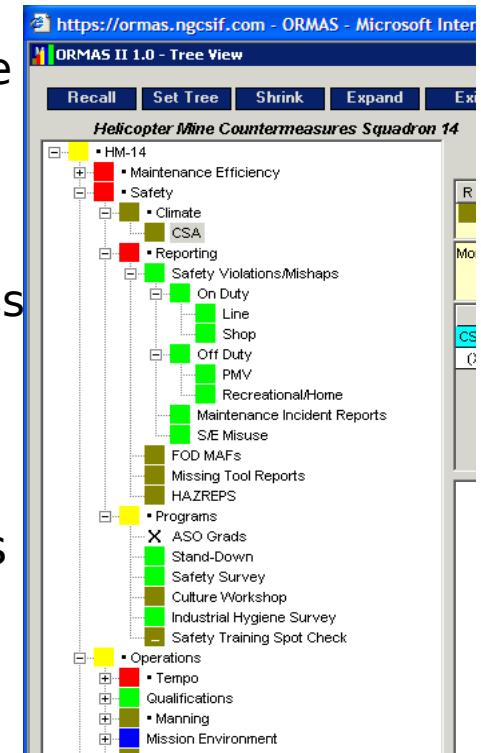
ORMAS Today & Tomorrow

Today

- Completed initial proof of concept with HM (H-53) squadrons
 - ✓ Capability & potential well received
 - ✓ SORTS like risk assessment scale based on quantitative standards
 - ✓ Fleet developed, flexible weighted metrics
 - ✓ Multi-level, drill down capability
 - ✓ Data trending/charting capability...selectable time frame

Tomorrow

- Establish a Safety OAG for metrics standardization
 - T/M/S core safety/risk based metrics that effect readiness
 - Warfare area specific metrics by T/M/S...
 - CO “metrics of interest”
- Link data to mishap causal factors; “Tuneable”
- “Predictive” capability...as data accumulates/matures
- Incorporate fatigue measurement tool
- Roll up capability to DRRS ... for selective metrics***





Why address at JSSC?

- Joint Service Applicability – unit predictive risk tool
 - Tunable, scalable for other communities and services
- Currently funded through April 2008
- Additional \$250,000 to continue development thru Sep 08
- Establish ORMAS as a Navy Program of Record for FY-09
- DSOC potential

Recall Set Tree Shrink Expand Exit

Helicopter Mine Countermeasures Squadron 14

- HM-14
 - Maintenance Efficiency
 - Safety
 - Climate
 - CSA
 - Reporting
 - Safety Violations/Mishaps
 - On Duty
 - Line
 - Shop
 - Off Duty
 - PMV
 - Recreational/Home
 - Maintenance Incident Reports
 - S/E Misuse
 - FOD MAFs
 - Missing Tool Reports
 - HAZREPS
 - Programs
 - ASO Grads
 - Stand-Down
 - Safety Survey
 - Culture Workshop
 - Industrial Hygiene Survey
 - Safety Training Spot Check
 - Operations
 - Tempo
 - Qualifications
 - Manning
 - Mission Environment
 - Mission Type
 - ORM Matrix Score
 - Human Factors
 - Morale
 - Demographics
 - Environment
 - Fatigue

Breakpoints

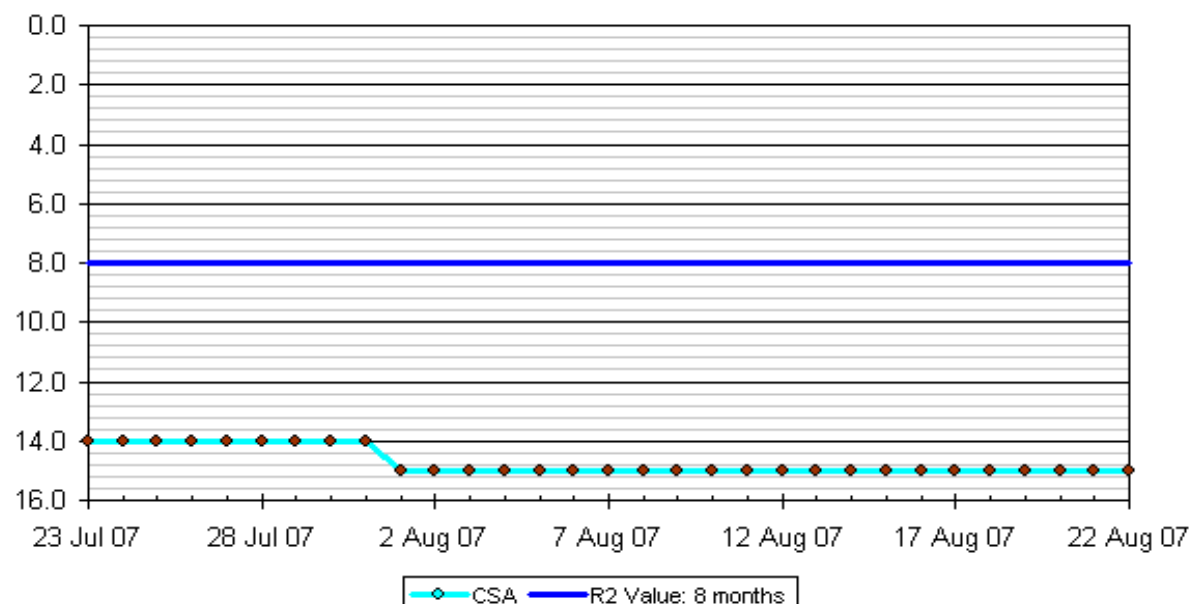
R1	R2	R3	R4	R5
6 months	8 months	10 months	12 months	18 months

☒ Show Chart

R value	Today	Avg	Std
R5	15 months	8 months	8 months

Months since last Command Safety Assessment

Source Supporting Metric	Value	Reasons
CSA	15 months	
(X) Safety-Date of last CSA/HM-14	5/17/06	





Questions



Back up slides



Pearl Harbor AN/PVS7

Present

Temperature Extremes -40F to +140F
NVG Stability in 90+ mph
Environment
Hearing Protection Is Not Always Needed
ESS --- Sun / Wind / Dust ---
NO NVG



The Growing Noise Problem

Cost of Hearing Loss for All Veterans

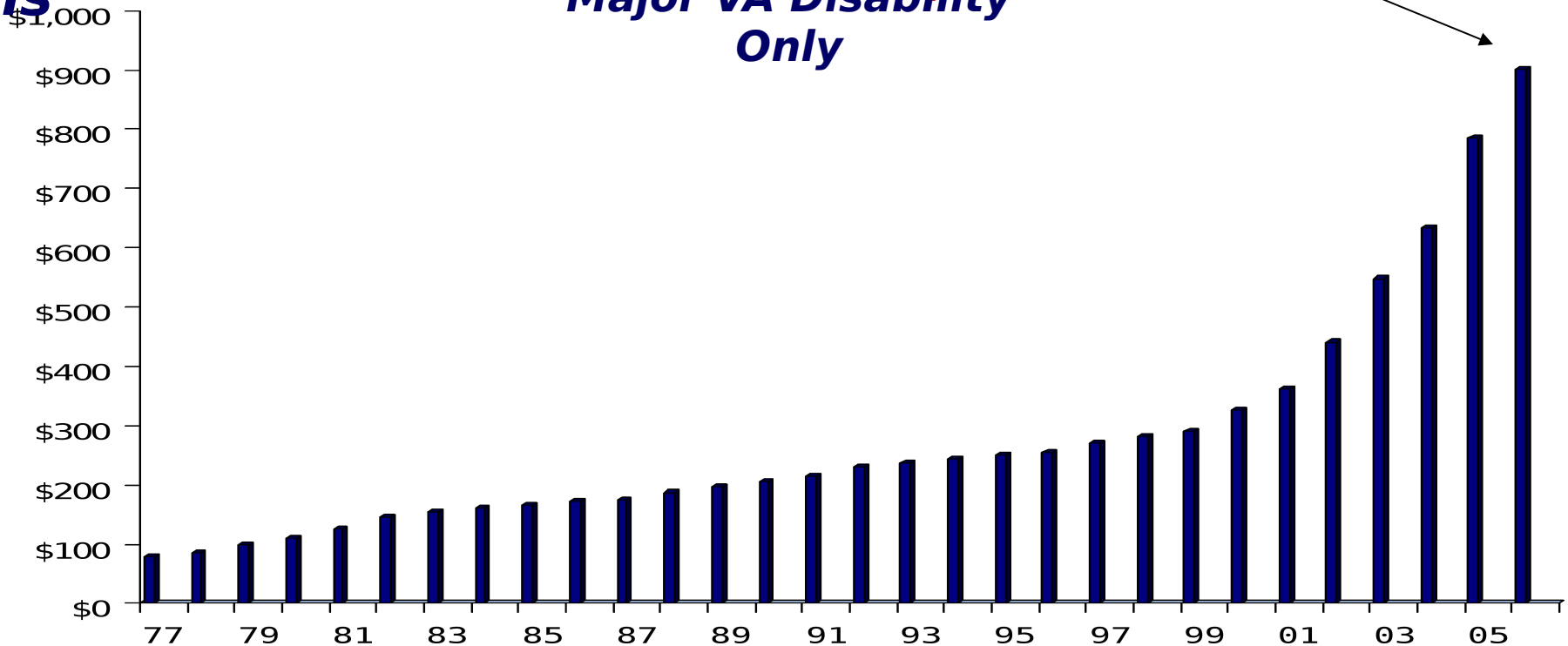
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Total = \$8,385,000,000

\$901,472,784

Major VA Disability Only

Millions



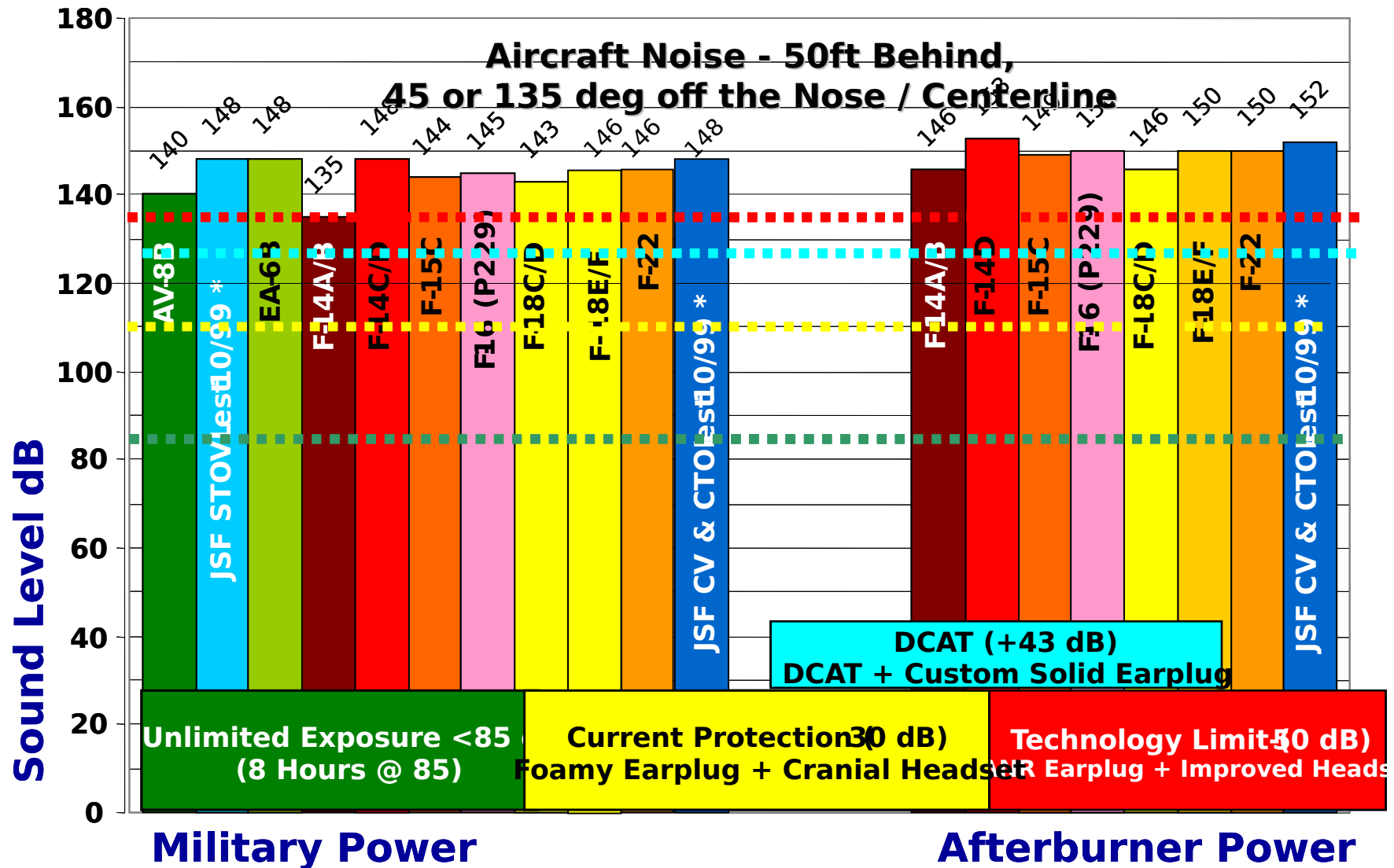
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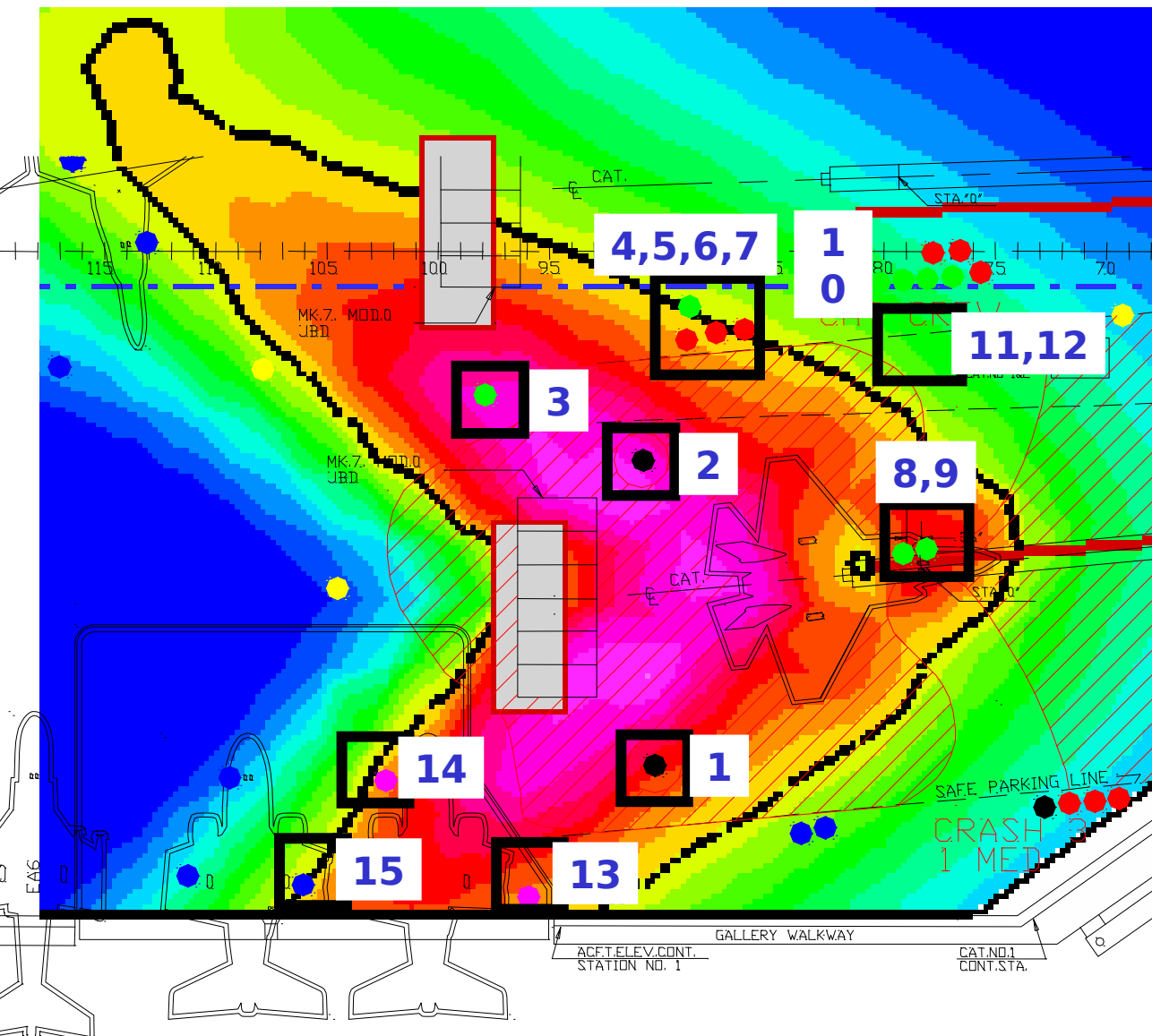


AIRCRAFT NOISE

What We Can and Can't Do About It



Carrier deck launch support personnel bow catapult position (F-35 noise contours)



- | | |
|----|--------------------------|
| 1 | Final Checker |
| 2 | Final Checker |
| 3 | JBD Operator |
| 4 | Misc. Cat Crew |
| 5 | Arming Crew |
| 6 | Arming Crew |
| 7 | Arming Crew |
| 8 | Holdback Man |
| 9 | Topside Petty Officer |
| 10 | Aircraft Director |
| 11 | Misc. Cat Crew |
| 12 | Weight Board Operator |
| 13 | Fuels |
| 14 | Fuels |
| 15 | Chocks, Chains, Tractors |